

C40 ADVANCING TOWARDS ZERO WASTE DECLARATION:

**How cities are creating
cleaner, healthier
communities and
circular economies**



ACKNOWLEDGEMENTS

This report was created in collaboration with each of the signatory cities of the C40 Advancing Towards Zero Waste Declaration. Each city section including the summary and the city resident impact stories were self-reported. The city summaries showcase past, present, and future actions the city is implementing to achieve the goals of the declaration. Information included in the 'Data Analysis' has been collected through desktop research and further information provided by city officials. For further information on the C40 Advancing Towards Zero Waste Declaration, please check out the [declaration webpage](#).

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FOREWORD

Many cities are among those on the frontline of climate change, feeling the impacts of record-breaking temperatures, rising sea levels, and climate related natural disasters.

Since 2017, C40's Declarations and statements of political leadership – based on the toughest science-based targets and allied to concrete delivery milestones – have been signed by bold and forward-thinking Mayors. These reports document the ambitious action that has been implemented within cities. The importance of acting now is greater than ever. Focusing on achieving carbon neutrality by 2050 gives people a false sense of the time we have left to solve the climate crisis, and these Mayors have acknowledged that when it comes to creating safe, inclusive, resilient cities we must act now.

Despite the many challenges faced in recent times, with the global pandemic, economic disruption and upheaval, climate related natural disasters and in many cases strained financial resources, C40 cities have continued to act and have more than doubled the number of high-impact climate actions implemented in the six years since the Paris Agreement was signed. Cities have also already delivered more than 270 actions and are on track to deliver more than 900 additional actions by 2030, creating urban environments that allow citizens to thrive through creating streets that put people first,

cleaning the air that people breathe, creating low-cost and energy efficient homes and offices, ensuring citizens have access to balanced and nutritious food that does not harm the planet and advancing towards zero waste policies.

This must be a decade of action, with cities accelerating their efforts to tackle greenhouse gas emissions. For that reason, I have brought my own commitment to making London net zero forward by 20 years to 2030. I have also recently set out my preferred pathway to 2030 and identified further bold actions that London will need to take to achieve this goal. Delivery will require action by many stakeholders, but by setting out a bold and ambitious approach of our own we can encourage others to follow our example.

Congratulations to the cities featured in these reports for their leadership in creating **The Future We Want**, by demonstrating that their commitments are not empty words, but bold actions, and for driving the change needed for a safe planet for future generations.

Sadiq Khan
Mayor of London and Chair of C40 Cities



INTRODUCTION

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Around the world, C40 cities are implementing sustainable urban waste management practices that reduce Greenhouse Gas (GHG) emissions, improve public health, support economic opportunity, promote equity and create resilient infrastructure. When waste and sustainable material management is approached holistically, through promoting and taking actions that focus on reduction, avoidance, recycling, treatment and offsetting, cities can reduce their emissions by 15 to 20%.

To implement climate action that improves city-wide waste management, 21 C40 cities have signed the C40 Advancing Towards Zero Waste Declaration¹. These signatories have pledged to:

- **Reduce the municipal solid waste generation per capita by at least 15% by 2030 compared to 2015; and**
- **Reduce the amount of municipal solid waste disposed to landfill and incineration by at least 50% by 2030 compared to 2015, and increase the diversion rate away from landfill and incineration to at least 70% by 2030.**

This report outlines the actions that cities have taken to deliver on their Advancing Towards Zero Waste Declaration commitments.

¹There are also six non-C40 cities and states or regions signatories to the Declaration: Catalonia, Navarra, Newburyport, San Jose, Santa Monica, and Wales.

C40 CITY SIGNATORIES

Auckland	Milan	Rotterdam	Toronto
Boston	Montreal	San Francisco	Vancouver
Copenhagen	New York City	Stockholm	Washington DC
London	Paris	Sydney	
Los Angeles	Philadelphia	Tel Aviv - Yafo	
Melbourne	Portland	Tokyo	



EXECUTIVE SUMMARY

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The world has faced many new challenges since the launch of the C40 Advancing Towards Zero Waste Declaration and the publication of the previous 2019 action report '[How Cities Are Building The Future We Want: city progress towards meeting Advancing Towards Zero Waste Declaration commitments](#)', including but not limited to the COVID-19 pandemic, which has had a particularly profound impact on the waste management sector. Due to the crisis, cities and their residents were initially faced with uncertainty related to the spread of the virus. Before the pandemic, a range of cities had started to ban single-use plastic items like shopping bags or containers for take away food and at the same time support reusable packaging. Concerns that the virus could spread through surfaces of these reusable packaging options then caused a shift back towards single use items and an enormous growth of this type of waste in cities. The pandemic has also impacted urban waste management operations, with cities having to adapt their collection processes to be 'COVID-safe', for example, by reorganizing teams for waste collection and their common use of vehicles and facilities.

The pandemic's financial burden on municipalities, has also resulted in many relevant projects being delayed or put on hold entirely, and has affected both the recycling markets and interest in second-hand items. Coupled with low oil prices, there has also been significant interruption to regional and global logistics and production cycles, which has made demand projections and the economics of the recycling market even more difficult.

Fortunately, some of these developments around reusables, single use items, recycling, and demand for second-hand goods have already

started to recover in a more positive direction. For example, a general scientific consensus about the safety of reusable foodware has been established with over 125 health experts from 19 countries signed onto a [statement](#) assuring retailers and consumers that reusables are safe during COVID-19. Projects to support the proliferation of these items have been supported by active engagement of cities like Philadelphia, London or Vancouver through updated health protocols and community outreach.

With hunger and food insecurity exacerbated by the pandemic, greater attention is being paid to the importance of food waste, a key component of cities' waste composition. The declaration's target of reducing waste generation per capita, with food waste being one of the biggest contributors to a city's total amount of waste, also addresses this challenge. Programs such as food rescue hubs can help to keep food available for consumption and avoiding it becoming waste. Currently, one third of food grown is thrown away, meaning there are major economic and social motivations to cut down on food going to waste. Food waste that ends up in landfills and dumpsites creates methane, a GHG 87 times more powerful than CO₂ at retaining heat in the atmosphere. Methane from human activities is responsible for 30 to 40% of the temperature increase experienced today, however, its rapid impact also means that actions to reduce methane emissions can have an impact in this generation. In fact, the latest IPCC Report highlights that urgently reducing methane is the single, most effective way to reduce the rate of global warming, and that achieving the 1.5° Paris Agreement targets is no longer possible without an ambitious methane strategy, in parallel with drastic cuts in CO₂ emissions as well.

CONSIDERING EQUITY IN URBAN WASTE MANAGEMENT

Climate action in cities can help enhance social equity and provide multiple benefits for city residents. In delivering their C40 Advancing Towards Zero Waste Declaration commitments, cities are also considering the impacts of their climate action on city residents in order to inform the way in which to deliver these actions equitably. Highlight from cities who voluntarily reported their equity assessments include.

- **Toronto** designed a Circular Economy Roadmap that highlights the need to consider gender in the development of green job strategies; the health and safety of circular economy workers and participatory processes for indigenous groups;

- **Montréal** developed a Zero Waste Plan through participatory processes to engage small businesses that may be negatively impacted by actions to end the use of non-recovered plastic and single-use materials.

Further equity considerations are included within the individual city progress summaries.



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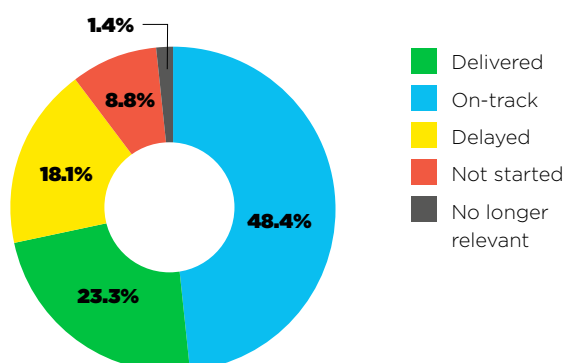
DATA ANALYSIS

Since the launch of the Declaration, cities have taken action and are showing what advancing towards zero waste can look like. Here is an overview of what the 21 C40 signatories have been achieving so far.

A total of 240 actions have been included in the reporting so far, of which nearly three quarters are on track or already delivered. Some of the actions cities are implementing include:

- Reducing food loss and food waste at the retail and consumer levels, such as in Copenhagen where direct engagement with households is helping build more sustainable and healthy consumption patterns.
- Cities like Melbourne and Sydney have started implementing source separated collection for food scraps and other organics and treatment infrastructure.
- Increasing reduction, reuse, recovery and recycling of construction and demolition materials, as in Vancouver's new hubs to reemploy material in the city, or in San Francisco where bans are in place on direct landfilling of waste from construction and demolition.
- Increasing accessibility, awareness, scale and inclusivity of reduction, reutilisation and recycling programmes and policies for all communities and neighbourhoods.

240 actions reported by signatories

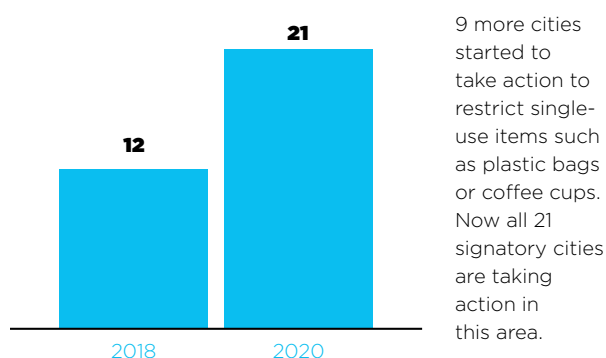


Cities using Pay-As-You-Throw schemes as an incentive

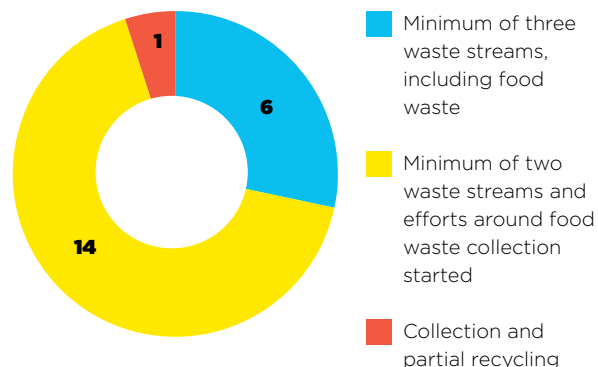


42%

Signatories taking action on single-use items



Cities with segregate collection



All 21 signatories are actively moving towards segregate collection, with the majority having at least 2 waste streams or more, and 6 cities having fully rolled out collection for food waste.



CITY PROGRESS SUMMARIES

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The following section of this report contains progress and action summaries that were self-reported by each of the C40 Advancing Towards Zero Waste Declaration signatory cities. The city summaries showcase past, present, and future actions the city is undertaking to achieve the implementation milestones of the Declaration.



AUCKLAND

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Te Tāruki-ā-Tāwhiri, Auckland's Climate Plan, endorsed in December 2020, has elevated the priorities initially set by Waste Solutions, the department within Auckland Council that manages all the waste services, into a region-wide plan that recognises the synergies between waste reduction and climate mitigation.

This plan outlines how waste reduction initiatives will contribute to Auckland halving its greenhouse gas emissions (against a 2016 baseline) by 2030 and reaching net zero emissions by 2050, embedding the work around waste reduction into other Auckland-wide plans and strategies.

Waste work programmes identified as core to Te Tāruki-ā-Tāwhiri include food scraps diversion, food rescue, food redistribution, a reduction in wood waste, the exploration of other options for onshore reprocessing of plastic waste and paper/cardboard waste, and the expansion of the Resource Recovery Network.

The city has awarded a 20-year contract to the first large-scale food waste-to-bioenergy facility in New Zealand. The plant is expected to begin processing in 2023 and to divert up to 75,000t of food scraps from landfill – a crucial step to finish the roll out of segregated food scrap collection in the city.

This effort is also accompanied by successful advocacy to the central government. An increase of the waste levy at landfill from NZD 10 per tonne to NZD 60 per tonne has been announced, and will help to further incentivise waste reduction and diversion.

The city is also investing in a major upgrade of the Materials Recycling Facility that sorts recycling from Auckland and other regions, largely funded by a central government COVID-19 economic stimulus package. The upgrade will improve paper, cardboard and plastic sorting and reduce contamination in all sorted products. It will also increase the facility's sorting capacity from 140,000 tonnes to 180,000 tonnes per annum.



The City of Boston is implementing recommendations from its 2019 Zero Waste Plan to reduce waste generation and disposal. Approximately 6% of Boston's greenhouse gas emissions come from discarded materials. The Zero Waste Boston initiative aims to divert at least 80% of Boston's waste from landfills and municipal solid waste combustors by 2035. Achieving these goals will support Boston's transition to becoming a carbon neutral, zero waste, Green New Deal city.

The City of Boston has taken action on these goals through initiating a comprehensive residential recycling and composting program. Since 2019, new neighborhood textile recycling drop boxes have been installed, the curbside yard waste collection program has expanded, and improvements have been made to Project Oscar, Boston's 24-hour community compost program. The City has also begun offering waste

reduction technical assistance to businesses in addition to creating zero waste toolkits and resource cards. The City of Boston has also begun prioritising environmental sustainability in its procurement processes.

In the coming year, Boston's Zero Waste program is exploring strategies for curbside textile and food scrap collection services, as well as expanding community composting programs. The City is also exploring deconstruction opportunities, and creating new resources to support businesses in accomplishing their zero waste goals and developing a food waste collection program with Boston Public Schools. Lastly, the City of Boston plans to raise awareness and offer support to businesses covered by state-level waste disposal bans, such as organic materials, mattresses and textiles from commercial generators.



Copenhagen has been working on the city's Resource and Waste Management Plan 2024, which is largely in line with the C40 Advancing Towards Zero Waste Declaration. In the past year, the city has seen progress in many action points, although most have yet to be delivered. A recent breakthrough in funding means the city can also now resume its plan to increase recycling of waste from businesses.

A major difficulty in delivering some of the planned activities is a change in national legislation that requires waste handling facilities to be owned by private companies. This legislation means that Copenhagen must abandon its plan to own a biogas facility where the city can develop its biogas processes to increase output quality. Additionally, there is uncertainty about whether the legislation will allow the city to own sorting facilities, which is essential to delivering the remaining amount of waste to both existing and potential recycling facilities.

The city has also developed different formats to raise awareness around waste and consumption. For example, some citizens thought plastic sorting requires more cleaning than it does, which was addressed by a campaign and contributed to increasing the collection of plastic by 15%. Swap facilities have been established at schools and apartment blocks and other public spaces, with a swap event planned for 2021. A testing laboratory for entrepreneurs, selling used furniture to citizens, has also started providing education for children.

Citizen Impact Story: Engaging the community through recycling workshops

Sydhavn Recycling Center has completed several hundred reuse and recycling workshops with citizens – both adults and school children. Additionally, 10% of the total resources delivered to the centre are now directly reused by citizens.



LONDON

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Since signing the C40 Advancing Towards Zero Waste Declaration in 2018, the city of London has integrated the ambition into their 1.5C-compatible Climate Action Plan, the London Environment Strategy and into their green recovery planning.

The London Environment Strategy (LES) sets out the mayor's aim to make London a zero waste city. This means ensuring London sends no biodegradable or recyclable waste to landfills by 2026, and 65% of London's municipal waste will be recycled by 2030.

The mayor required all London's 32 boroughs and the City of London to produce a Reduction and Recycling Plan (RRP). If all RRP's are implemented in full, London's recycling rate is expected to reach 40% by 2022. There has been progress since the LES was published. Thirty boroughs now collect the six key dry recycling materials, up from 29 in 2018. Twenty-three boroughs collected food waste separately in 2018, and this has now increased to 24 boroughs.

London is the leading region in England in reducing the amount of waste sent to landfills and has decreased from 7% in 2018/19 to 2.8% in 2019/20.

To reduce single-use plastics, the mayor has launched the Refill London initiative, where people can obtain free water refills from shops and businesses. This has led to over 4,300 refill points, and 82 drinking fountains have been installed with 56 more planned by summer 2022. The city obtained advice from the London Scientific Technical Advisory Committee confirming that the fountains are safe to use, as is refilling your bottle or coffee cup at participating businesses mapped on the Refill London app. The first 28 fountains installed dispensed the equivalent of more than 733,000 half-litre plastic bottles over two years.



LOS ANGELES

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By the end of 2021, Los Angeles (LA) will release their Zero Waste City Hall Plan, which will be a starting point for all departments to submit their zero waste plans, and for their city-wide zero waste event guide.

This year, LA will also release their draft plastics policy, aimed at reducing single-use plastics. This will include the city's polystyrene ban, as well as requirements around the type of plastics and compostable material allowed within the city. In January 2021, LA released its Foodware Accessories Upon Request ordinance, which requires providing all disposable foodware accessories only upon request, and for food delivery companies to enact an 'opt-in' model for foodware accessories.

Additionally, through funds received from the American Rescue Plan, by June 2022, LA will launch a USD 1 million grant programme to support small restaurants in low-income communities to begin their transition to zero waste practices.

Since 2017, through LA's commercial solid waste collection programme, the city has spent USD 1.8 million and recovered 14,402 tons of food. This is the equivalent of 24 million meals.

LA brought onboard two Civic Spark Fellows from 2020 to 2021, who were tasked with identifying food rescue organisations and groups, determining their capacity, and identifying what support would be helpful to expand their capacity. The city is using these surveys to develop a food rescue grant programme. The city plans to launch this USD 1 million grant-funding programme in the early part of 2022.

Finally, through the American Rescue Plan, LA has USD 750,000 to expand compost collection at farmers' markets throughout the city. In addition, LA Sanitation and Environment completed an 18,000-home pilot testing the

co-mingling of yard waste and food waste. The sanitation department has released a request for proposals for organics processing in October 2021, and plans to expand organics collection to all 750,000 residents starting in 2022.

Los Angeles is delivering on the C40 Equity Pledge commitment by reporting equity and inclusion considerations in its climate actions

In the delivery of the declaration commitments, city actions are targeting the placement of community compost sites in low scoring CalEnviroScreen neighbourhoods to increase community engagement in landfill waste prevention and in healthy soils and good food initiatives. This also involves taking into account – and addressing – the potential trade-offs and impacts that these actions might have on low-income communities. A key example of this involves the city's organics recycling for single family, multi-family and commercial entities city-wide over the next five years. This is expected to tackle the food waste that makes up 15% of all tonnage going to landfill.

However, while increased equity in access to waste diversion services can ensure everyone in the city has access to the same services, there is a cost burden on low-income customers who may feel the brunt of increased waste diversion costs. To address this, LA proposes creating grant programmes for small businesses to aid in the transition to zero waste, including the expansion of food rescue efforts to avoid organics collection where possible, and expansion of community compost to create early access to organics processing at a smaller scale.



Since signing the C40 Advancing Towards Zero Waste Declaration in 2019, City of Melbourne has integrated this ambition with its Waste and Resource Recovery Strategy 2030. It is focusing on three themes: waste avoidance, resource recovery and minimising waste to landfill.

Broad behaviour change campaigns are targeting residents and businesses, in an effort to reduce the amount of waste generated within the city, promote waste avoidance and inspires reuse. City of Melbourne has drafted new event guidelines and education briefings to help event partners reduce waste at events across the city.

A state-wide container deposit scheme is on the way after successful lobbying from City of Melbourne, while at a national level the city continues to advocate for stronger and extended producer responsibility at a national level.

Since 2019, the City of Melbourne has supported community groups, startups, businesses and researchers to deliver innovative waste minimisation solutions through a Waste Minimisation and Innovation Fund.

In 2021, the City of Melbourne is delivering the next round of its Waste Minimisation and Innovation Fund. It is rolling out phase one and two of a new organics recycling services to low-rise multi-unit developments, and trialling a mobile e-waste collection service using bike couriers.

Plans are underway to expand the existing business resource recovery hub network, and the City of Melbourne is investigating new opportunities for recycling dumped rubbish and waste in street litter bins.

City of Melbourne is strengthening its Waste Management Plan guidelines for new developments, and reviewing and updating waste generation rates. This will encourage higher recovery rates in new building developments across the city.



Since signing the C40 Advancing Towards Zero Waste Declaration, Milan has implemented several initiatives. In addition to the replacement of disposable plastic cutlery, plates and bottles with compostable and/or durable materials in public school canteens, the municipality has introduced compostable cups in vending machines in municipal buildings. Projects have been realised to raise awareness including the distribution of reusable water bottles and the installation of water dispensers.

At the household level, in 2022, a test on trash metering will be conducted, combining trash weighing during the collection phase and a system for user identification.

The implementation of Milan Food Policy actions for the reduction of food waste, such as tax incentives, reduction programmes in school canteens, food surplus recovery in open streets markets and neighbourhood food hubs, has continued despite the slowdown related to COVID-19. In 2020 and 2021, two additional food waste hubs were opened in new districts.

In 2022, new collection centres will be created for bulky items and green waste, together with 'reuse centres', where citizens will deliver materials that are still possible to reuse.

The city has started some pilot projects (e.g. the NoPlastic campaign), with the aim of reducing disposable packaging in foods deliveries at district level. Usage of disposable packaging had increased due to the pandemic.

In 2020, Milan reached a waste diversion rate (away from incineration or landfill) of 63%. Awareness raising has contributed to this achievement. One such project was 'Un Sacco Et(n)ico' (An Eth(n)ic Bag'), a pilot program for implementation of segregate collection in restaurants managed by non-Italian entrepreneurs with difficulties in understanding information.

In 2022, the City of Milan plans to reinforce its circular economy approach by setting specific rates of segregate collection, strengthening recovery through the valorisation (reuse or recycling) of materials and energy, improving the recycling of packaging, enhancing preparation for reuse, and valorising used clothes.



In August 2020, Montréal adopted the 2020–2025 Residual Materials Management Master Plan, Zero Waste Montréal. This strategy and its action plan have three main priorities: reduction at the source, diversion of organic waste materials and mobilisation of participants.

To achieve a 15% reduction in the generation of residual materials and in addition to specific communication campaigns, the city is counting on the ban of some single-use plastic items, an integrated strategy to fight food waste and actions in cooperation with participants to reduce the quantity of textiles sent to landfill.

As a primary activity, the city adopted in september 2021 two regulations prohibiting the distribution of certain single-use items and shopping bags made of plastic.

To divert 70% of residual materials and reduce the amount of material eliminated by 50%, Montréal is expanding the collection of food waste and other organic materials. In 2021, Montréal started the massive deployment of food waste collection services from multi-unit housing (nine housing units and more), as well as from certain institutions and businesses deemed suitable for municipal collection. This year, more than 30,000 new households will be offered the service, which will add to the 558,000

households already benefiting from organic waste collection in Montreal.

Two organic waste treatment facilities are under construction on its territory and should be commissioned in 2022. Two new additional ecocentres are also planned.

Montréal is delivering on the C40 Equity Pledge commitment by reporting equity and inclusion considerations in its climate actions

In the delivery of the C40 Advancing Towards Zero Waste Declaration, the city has conducted public consultations to provide citizens with the opportunity to input on the city's Zero Waste Plan, such as actions to end the use of non-recovered plastic and other single-use materials. Key concerns include the increased costs of purchasing alternatives to single-use plastics, negatively impacting small businesses where supply may be more fragile. In light of this, Montréal is planning programmes to support these businesses in the transition, as well as supporting low-income families.



NEW YORK CITY

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Since signing the C40 Advancing Towards Zero Waste Declaration, New York City (NYC) has grown a number of its recycling and reuse programmes while collaborating with the non-profit and business community to promote positive systemic change in the waste sector.

To reach the 15% waste reduction goal, NYC has expanded the local reuse economy and increased access to reusable goods to all New Yorkers. The donateNYC programme – New York’s reusable goods exchange – has expanded to include not only durable goods, but also food, construction and demolition materials. Recently, the programme further expanded to act as a donation and resource distribution portal during and after disaster events including the COVID-19 pandemic.

In addition, NYC has instituted a material ban on single-use foam products, promoted a state-wide plastic bag ban, and implemented a 5-cent fee on paper bags as a means to encourage the use of reusable bags. Furthermore, NYC continues to support a state-wide Extended Producer Responsibility system for packaging to promote waste reduction not only on an individual and consumer level but on the greater supply chain as well.

To increase its diversion rate, NYC is targeting almost one-third of its waste stream through the return and expansion of its kerb-side composting programme as well as significantly increasing the number of food scrap drop off sites for community-based composting. New rules covering food service establishments in NYC mean that a growing number of commercial businesses in the city will begin to compost

their food scraps as well. To accommodate this growth, NYC is continually seeking to improve regional organics processing capacity.

NYC has continued to expand a number of programmes to target materials outside of the traditional recyclables stream of metal, glass, plastic and paper. Programmes targeting electronics, textiles and hazardous household waste continue to serve residents of NYC while keeping these harder-to-handle materials out of landfills and incinerators.

New York City is delivering on the C40 Equity Pledge commitment by reporting equity and inclusion considerations in its climate actions

New York City aims to ensure that the benefits of OneNYC, its Green New Deal, are distributed equitably to all citizens, particularly communities on the frontlines of the climate crisis. The City has therefore passed a law codifying environmental justice into the City’s decision-making. New York City is in the process of developing its Environmental Justice for All report, which will analyze environmental and climate issues in the city and identify the communities that are disproportionately impacted by environmental burdens. The results from this report will inform New York City’s first Environmental Justice plan, which will embed equity and inclusivity into the City’s policies, programs, and decision-making processes.



After the structuring of the zero non-recovered waste strategy, the year 2019 saw the consolidation and implementation of actions in the city of Paris. These actions included the launch of emblematic operations such as the zero-waste street and the launch of a zero-waste families' challenge.

To help Parisians reduce their waste, the city adopted a compost plan in 2017 that provides free local composting equipment. These systems are booming, with over a hundred new composting sites set up every year at condominiums, schools, public buildings and in neighbourhoods, with the mobilisation of associations. For all households willing to compost, the city organises campaigns to donate individual vermicompost kits – a small composting system based on worms digesting food waste that can be used inside apartments. Since November 2017, over 4,000 vermicompost kits have been distributed.

The collection of bio-waste has also been running since March 2018 for all large municipal producers (>10t/year). This means that selective collection takes place at 130 government canteens and restaurants, in addition to the 53 food markets already benefitting since 2016. The collection of household bio-waste

continues, and in addition to the door-to-door solutions deployed in the 2nd, 12th and 19th districts, public drop-off points were installed in September 2020 at six food markets and their deployment is ongoing.

Paris also continues to support those involved in reuse and repair programmes. In 2020, two new “ressourceries”, which are local or regional not-for profits or co-operatives with mandates to turn wastes into resources, were inaugurated, raising the number of recycling centres in Paris to 17. Today, these open, city-supported facilities divert approximately 3,000 tons of waste from landfills and incineration plants each year.

Also, to facilitate the practice, instructions for Parisians on sorting waste have been simplified. Since 1 January 2019, all packaging, regardless of the material, can be thrown into the sorting bin.

By the end of 2020, 130 ‘Trilib’ sorting stations have been installed throughout the city. These bins receive material such as cans or bottles and are located in public spaces, offering a waste sorting solution to all Parisians. These are sorting stations installed in the public space to sort waste. They receive materials such as cans or bottles, thus offering a waste sorting solution to all Parisians.



PHILADELPHIA

Philadelphia was severely affected by the pandemic, losing resources such as the Director of the Zero Waste and Litter Cabinet. The Streets Department, responsible for waste removal, disposal and recycling, was also affected, while simultaneously dealing with increasing amounts of household trash and deteriorating market conditions for recycled materials.

The city's two key achievements were 1) implementation of the plastic bag ban, prohibiting the use of single-use plastic bags and bags without any recycled content from all retail establishments in the city (enforcement begins 2022). The administrative code was also updated to allow restaurants and other food businesses to offer reusable containers, making it easier to reduce waste. 2) Participation in the NRDC Food Matters Initiative on food waste reduction. Philadelphia joins four other cities in

implementing food waste reduction strategies including strengthening city ordinances to reduce food waste in commercial dumpsters, a city-wide awareness campaign and an initiative to help restaurants reduce their food waste. The city plans to launch the food waste awareness campaign on Earth Day 2022. The restaurant initiative will be piloted with a selected cohort in 2021/2022 with a goal to implement it city-wide.

In 2021/2022, Philadelphia intends to convene a workshop of stakeholders to review and appropriately revise the city's zero waste and litter plan. We will do this by considering updated data on the size and composition of our waste stream, reviewing market conditions for recycling, examining the local, state and federal policy landscape, incorporating guidance from experts and stakeholders, and examining our work through an equity and green economy lens.



ROTTERDAM

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When Rotterdam signed the C40 Advancing Towards Zero Waste Declaration in 2018, the city was on the brink of implementing a new waste management plan. The execution of this plan is still ongoing, but the first results are already here. In 2019, the household waste generated in Rotterdam was reduced by 5% compared to 2015. However, the COVID-19 pandemic has led to an increase in household waste because of the increase in people working from home and the temporary closing of bars, restaurants, and so on.

Although the pandemic has been a setback, the city's opt-in regulation regarding unwanted commercial mail came into effect in November 2020 and the results so far indicate a reduction of 5 million kilograms of paper waste per year. In the past years the use of the post-separation plant for plastic packaging and Tetra Paks has improved the city's diversion rate from incineration by 20% (from 30% to 36%).

The next major project is the introduction of food waste collection in multi-unit dwellings. In the first half of 2021, the first 20,000 households were given the ability to separate their food waste, with collection starting in July 2021. The remaining households in multi-unit dwellings will be included in the coming years.



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SAN FRANCISCO

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San Francisco adopted and implemented, effective July 2019, the Refuse Separation Compliance Ordinance requiring regular refuse separation audits of the approximately 500 largest refuse generators. If those generators are found to not comply they must engage the services of Zero Waste Facilitators. San Francisco also adopted and implemented, effective July 2019, the Single-Use Food Ware Plastics, Toxics and Litter Reduction Ordinance to reduce the use of non-reusable foodware and increase recovery.

The city conducted a “ReThink Disposable” education and assistance project to help food service businesses in one San Francisco district switch to reusable foodware, and has just expanded the project city-wide. To support this effort the city is also partnering with local non-profits and restaurant associations on a “Reusables Win” education campaign to encourage restaurants to go reusable. The city implemented a USD 500,000 state grant to assist large food businesses in reducing food waste and donating edible food using new data technology tools.

San Francisco has continued providing new grants to non-profits to further innovative source reduction, reuse, recycling and composting projects.

The city has also developed a new construction and demolition (C&D) debris ordinance, adopted in September for implementation in January 2021. It creates a new C&D debris transporter permit programme to reduce disposal and also incentivise source separation and generation reduction. The city implemented an online data management system for building projects to plan and report on C&D debris reuse and recovery. It also received a CNCA grant in 2021 to implement a building materials exchange programme to facilitate building material reuse, and will be working on improving a building material reuse facility in San Francisco.

Finally, San Francisco completed a city-wide rollout providing smaller general waste and larger recycling bins to residents and businesses; made additional recycling facility processing improvements to reduce disposal; and constructed a new, larger organics transfer facility.



STOCKHOLM

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For many years, waste segregation, together with waste reduction, has been the main objective for the city of Stockholm's waste management operations. Since signing the C40 Advancing Towards Zero Waste Declaration in 2019, the city has been implementing the new food waste collection policy. This makes it mandatory for all food preparing businesses (i.e. restaurants, hotels and commercial kitchens) and all city-owned kitchens to collect all their food waste starting from January 2021. All households and businesses will have to collect their food waste starting from 2023.

A key component in Stockholm's waste management operations is efficacy and sustainability, and it forms part of the city's ambition to be climate positive by 2040. By 2021, approximately 28% of Stockholm's food waste will be converted into biogas and bio fertiliser. After a delay to Stockholm's plan for a new waste sorting facility in 2020, the target is now to have it fully operational by 2024.

Stockholm is also focusing on enabling recycling through tenders and research and development projects. The city is cooperating with NGOs and other partners at different locations used for reusing and recycling. Even the transportation to these sites is planned to be sustainable, with citizens able to borrow a cargo bike, either regular or electric, to transport their materials.

The city of Stockholm also uses other forms of initiatives to make it easier for residents to reduce their waste, such as pop-up re-use facilities and other services close to where citizens live. Another key component is communication, with Stockholm regularly informing its citizens on how they can reduce food waste and increase their collection of food waste. Information is also tailored to different target groups, such as real-estate owners and businesses.



Sydney released its Leave Nothing to Waste Strategy in 2017, which set a 70% diversion from landfill target, and this was followed quickly by the incorporation of the C40 Advancing Towards Zero Waste Declaration goals. Since 2018, the city has progressed many of its proposed actions to drive down waste generation and increase recycling.

Since 2015, the per capita annual waste generation rate of Sydney's residents has reduced by more than 15% per resident. This means that each resident is producing less waste (by weight) each year. The city continues to deliver its waste avoidance action plan, including building waste avoidance and reduction habits into everyday life and providing waste avoidance education for schools. Key activities planned in the coming year include showing residents how to reuse, repair and rehome common household items.

A significant part of the city's residual waste bin is food waste and since July 2019, the city has trialled a food waste recycling programme that now provides collection services to more than 15,000 households and has recycled more than 790 tonnes of food. Key activities planned in the coming year include expanding this service so it is available to all residents.

In other initiatives to reduce the amount of materials going to landfill, the city supported and promoted the Paving the Way programme, which focuses on using glass fines (crushed glass) not suitable for glass recycling, instead of virgin sand for building roads and footpaths. In the coming year the city plans to specify more recycled content in their larger procurement projects, particularly where the city can buy back their own collected materials.

Citizen Impact Story: Love Food, Hate Waste: co-creating online learning modules on waste reduction for local businesses

Sydney, in partnership with the New South Wales government, created the [Love Food Hate Waste programme](#), which offered free waste avoidance training to more than 30 businesses, including restaurants, cafés and pubs. It provided businesses with specific tools to reduce waste and maximise food rescue and recovery. The final outcomes of the project were to design and make available online learning modules for all local businesses to download and use to assist with food waste reduction. The modules will be available for any business, or community group, to download early in 2022.



TEL AVIV - YAFO

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In order to meet the C40 Advancing Towards Zero Waste targets, Tel Aviv has developed three courses of action: reduce waste generation, reuse and recycle.

Among other actions, the city promotes workshops, community platforms and educational activities to raise awareness and provide tools to reduce, repair, upcycle, swap and reuse stuff and materials.

For example, the city has collaborated with NGOs and supermarkets to collect and distribute 'close-to-expiration-date' products. The city also offered a course for residents on how to 'stop tossing "eatable money" away', and training with practical tips on how to store and cook food in order to produce less food waste.

The city is also strengthening its municipal infrastructure for recycling and reuse with various actions, including cutting the waste of branches, tree trunks or shrubs, electronic waste, and textiles. The city is also piloting a project around organic waste from the city markets, which is being collected separately and treated at a local plant. Tel Aviv also supports and organises zero waste events and actions for the reduction of disposable plastic.

Finally, part of the climate action plan development process explores the problem of waste. The city aims to adapt existing courses of action and create new growth paths in the field that will pull the city towards the stated target.

Citizen Impact Story: Lira Shapira: Grassroots initiative rewards citizens for composting organic waste, and business support non-status families through a social grocery store

Lira Shapira: Grassroots initiative in the Shapira neighbourhood. Residents can earn 'Lira Shapira' – a local currency – for every kilogram of organic waste they bring to the community composter. The money can be also used at local businesses.

Social grocery store – food security programme. The city has recruited food companies, large supermarkets and farmers who will donate foods such as vegetables and fruit products directly to the social grocery store. This programme supports 500 non-status families (such as those with a migrant background without formal citizen status).



By 2030, Tokyo aims to achieve a general waste recycling rate of 37%; a 40% reduction in the incineration of waste plastic from homes and large office buildings (compared to 2017); and to halve the amount of food loss (compared to 2000).

It should be noted that general waste does not correspond to municipal solid waste. Renewable resources that are valuable and traded on the market are excluded from waste under Japanese laws and statistics. The general waste recycling rate from April 2019 to March 2020 was 23.3%, but if the waste definitions from the Basel Convention et al. are adopted, the municipal solid waste recycling rate is about 45%.

For plastics, it is necessary to build new business models for distribution and sales. The metropolitan government has selected the Loop business (using reused containers for take-out bento boxes) and Kao Co., Ltd. (aiming for closed-loop recycling of pouch containers for daily necessities) as new business model projects.

In June 2021, the national government enacted its Law to Promote Plastic Resource Recycling, requiring that businesses rationalise the use of disposable plastics. The Tokyo Metropolitan

Government has appealed to the national government to demand businesses control emissions and use reusable containers. In addition, the Nine Prefectures and Cities Summit Meeting, consisting of nine local governments in the Tokyo metropolitan area, submitted requests about recycling-related laws to the national government. Furthermore, in collaboration with municipalities, '3R advisors', have been trained to provide accurate advice on waste with the aim of promoting the recycling of business waste plastics.

The city has set a goal of halving food loss (compared to 2000) by 2030, with the goal of net zero food loss by 2050. Specific efforts are included in the Tokyo Food Loss Reduction Promotion Plan.

The Tokyo Metropolitan Government will reduce the amount of waste plastic incinerated from the Tokyo Metropolitan Government building. The city is aiming for a 20% reduction by 2024 (compared to 2017), as well as, in principle, the implementation of using reusable cups, etc., at events hosted by the Tokyo Metropolitan Government.



To reduce waste generation, Toronto has advanced implementation of Community Reduce and Reuse Programs, which aim to build a culture of waste reduction, reuse and sharing. The Single-Use and Takeaway Item Strategy continues to be developed, with a first stage of voluntary measures and a second stage of mandatory measures. The city also conducted a three year waste reduction community grants pilot program. In addition, the 3Rs Ambassador Program supports volunteers in multi-residential buildings to educate residents on waste reduction.

The city partnered with the National Zero Waste Council on the Love Food Hate Waste Canada campaign to reduce food waste. The city also has textile diversion initiatives, which include an educational awareness campaign, accepting textiles at Community Environment Days, hosting a public clothing swap and partnering with organisations collecting textiles at various events.

Toronto's Green Bin Organics program delivers regenerative outcomes by creating compost that returns nutrients in food and organic waste to the soil and bio-gas that will be transformed into renewable natural gas (RNG). The RNG will be used starting in 2022 to power the City's fleet and heat its facilities.

The city conducts regular audits on waste generated at multi-residential and single family residential dwellings, as well as litter audits. Audits of waste bins in city parks were conducted in 2021 as well as waste composition audits as part of the mixed waste processing study. These waste audits inform system planning, and new policies and programs, to increase diversion from landfill.

The city will develop a Stakeholder and Community Outreach Roadmap for 2023–2026. It will conduct an update of the action items and recommendations in the Long Term Waste Management Strategy in 2022.

Finally, a recent study on the current state of circularity in Toronto provides the foundation for the future Circular Economy Road Map.



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TORONTO

Citizen Impact Story: Community Reduce and Reuse Programme

To help build a culture of waste reduction, reuse, sharing and repairing in Toronto, the city implemented [five Community Reduce & Reuse Programs](#). These are part of [Long Term Waste Management Strategy](#) implementation and support the [Toronto Strong Neighbourhoods Strategy](#). They help to build sustainable communities and reduce the amount of waste going to landfill by promoting the reusing, sharing, repairing and repurposing of items.

They include sewing and bicycle repair hubs, share and reuse spaces, community composting and an urban harvest program.

The program sites are based primarily in Neighbourhood Improvement Areas – parts of Toronto where the city and partners are investing in people, services, programs and facilities to strengthen social, economic and physical conditions – and include multi-residential buildings and community hubs. The city is working in collaboration with various local agencies and non-profit organisations to deliver the programs.

Toronto is delivering on the C40 Equity Pledge commitment by reporting equity and inclusion considerations in its climate actions

The city has been studying the current state of circularity in Toronto to inform the development of a Circular Economy Road Map. Through circular economy interventions in target sectors, the city is working to identify opportunities for local job creation, enhanced social connectivity, and other equity benefits.

In particular, the research has found that transitioning to a circular economy presents an opportunity for the city to engage meaningfully with Indigenous Peoples (as Rights Holders) as well as other equity-deserving communities. Although the city recognizes that it cannot presume a role for these groups, space can be created to invite them into the city's work on their terms to support co-creation of equitable solutions.

The city is exploring how it can remove decision-making and participation barriers in the development of its Circular Economy Road Map to promote an inclusive pathway for a circular, just and equitable Toronto.



VANCOUVER

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Vancouver's Zero Waste Strategy was impacted significantly by the COVID-19 pandemic. A number of staff were re-assigned to support the pandemic response, hindering progress with many zero waste initiatives, including the development of new policies, plans and programmes. Further, various solid waste services such as the City of Vancouver's zero waste recycling depot operations and public outreach events were scaled back or suspended in order to protect worker and public safety, and to comply with provincial health orders.

Despite these challenges, the City of Vancouver has made notable zero waste advancements. Highlights include reducing food loss and waste through the Love Food Hate Waste campaign and the launch of a new programme involving a collaboration with Vancouver grocers to identify and prototype actions; and increasing the beneficial use of landfill gas as renewable natural gas through a partnership with private sector partners.

The City of Vancouver is continuing the implementation of its Single-use Items Reduction Strategy with a 1 January 2020 ban on foam cups and foam take-out containers, and a 22 April 2020 ban on plastic straws and restrictions on the distribution of single-use utensils.

Further achievements include consultation with charities, non-profits and network organisations to develop a support plan for residents disproportionately affected by income inequality due to the City of Vancouver's ban on plastic shopping bags; an updated Green Operations Plan including a corporate single-use-item-free policy for city operations and facilities; the launch of a deconstruction materials 'Rebuild Hub' by a non-profit supported by the City of Vancouver; and the upgrade and conversion of a city facility to become a 'Product Care' depot for the collection of household hazardous waste and paint products for processing and recycling.

Finally, in 2020 the City of Vancouver adapted its zero waste school outreach programme to include online components, resulting in a more flexible and inclusive programme with a wider audience potential.



WASHINGTON, D.C.

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Since 2019, the Department of Public Works has released its landmark city-wide Desktop Waste Characterization Study as well as the CY 18 Solid Waste Diversion Progress Report. This establishes new baselines for the calendar year 2018, which will be used to measure future progress.

By 2038, the total size of the city's solid waste stream is estimated to rise to nearly 1.4 million tons. These critical data and baselines allow the district, its officials, policymakers, leaders and stakeholders to make more informed decisions about future policies and programmes.

The city's Food Waste Drop-off Program grew by 33% in 2020 in tonnage collected and processed, despite the pandemic disrupting operations. New programmes like the Home Composting Program reached 925 residents.

The district has also enacted the Zero Waste Omnibus Act of 2020, which allows it to enact food waste diversion requirements for commercial businesses while providing more targeted education and outreach; a comprehensive extended producer responsibility programme for rechargeable and primary batteries; an organics management plan; and more.

The district's Department of Public Works' fiscal year 2022 budget will fund transformational opportunities to achieve zero waste. Firstly, USD 103 million in capital funds are available to demolish, remediate and reconstruct one of the city's two solid waste transfer stations. This new 'zero waste campus' will be designed to accommodate the city's projected waste stream for the next 30–50 years and will allow for significantly more waste diversion and recycling. In addition, funding is available for the Office of Waste Diversion to implement the long-awaited Zero Waste DC Plan. This plan will include a 20-month long engagement and planning process including 20 in-person events, a robust city-wide survey and a robust technical review conducted by multiple consulting teams.

